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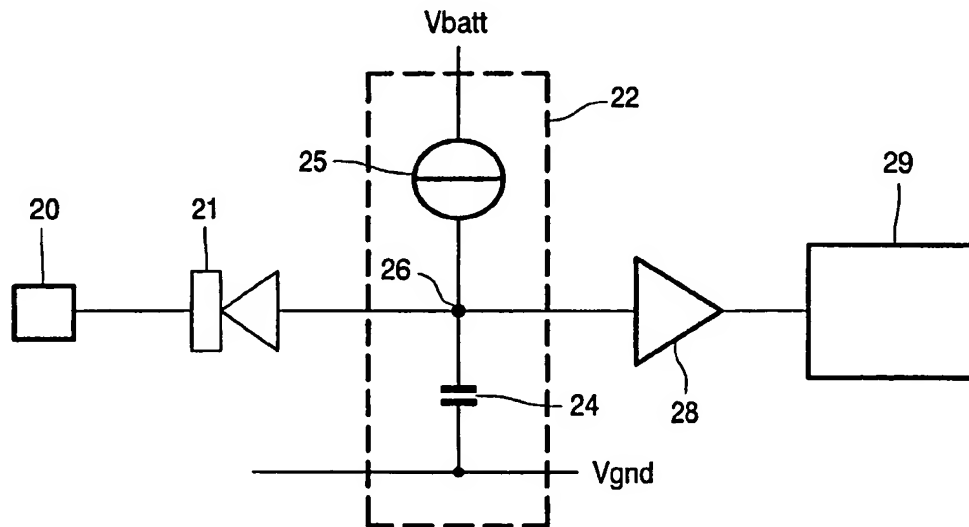
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[Continued on next page]

(54) Title: TRANSITION DETECTION AT INPUT OF INTEGRATED CIRCUIT DEVICE



(57) Abstract: An integrated circuit has an input connection for connecting an external signal conductor that passes signals to execute functions in the device. The external signal conductor can pick up strong interfering signals with high frequency content, for example when the device is used in a car. To protect against unintended execution of functions the device contains a timer circuit comprising a capacitance and a current supplying circuit coupled to an integration node. A discharge diode is coupled between the input connection and the integration node, with a polarity such that the discharge diode, when in forward bias, is capable of draining current from the current supplying circuit. A detector is coupled to the integration node for generating a signal to be supplied to the integrated circuit device to respond to a signal transition on the conductor. The diode serves to reset integration on the integration node before the detector detects the transition in case of short pulses. By using a diode instead of a switching transistor the circuit is more robust against the effect of interfering pulses.

**Declaration under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE,*

DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

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A. CLASSIFICATION OF SUBJECT MATTER
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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 0100, no. 95 (E-395), 12 April 1986 (1986-04-12) & JP 60 236320 A (MITSUBISHI DENKI KK), 25 November 1985 (1985-11-25)	1
Y	abstract	5-7
X	PATENT ABSTRACTS OF JAPAN vol. 0171, no. 93 (E-1351), 15 April 1993 (1993-04-15) & JP 4 341006 A (NEC CORP; others: 01), 27 November 1992 (1992-11-27)	1
Y	US 5 794 055 A (PIKULA MARK STANLEY ET AL) 11 August 1998 (1998-08-11) cited in the application abstract	5-7
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>PATENT ABSTRACTS OF JAPAN vol. 0091, no. 81 (E-331), 26 July 1985 (1985-07-26) & JP 60 051022 A (SHARP KK), 22 March 1985 (1985-03-22) abstract</p>	1

INTERNATIONAL SEARCH REPORT

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JP 60051022	A	22-03-1985	NONE